TECHNICAL COMPUTER APPLICATIONS

PURPOSE

To evaluate each contestant's preparation for employment and to recognize outstanding students for excellence and professionalism in the field of technical computer applications.

First, refer to General Regulations, Page 9.

CLOTHING REQUIREMENT

For men: Official SkillsUSA white polo shirt with black dress slacks, black socks and black leather shoes.

For women: Official SkillsUSA white polo shirt with black dress slacks or skirt, black socks or black or clear seamless hose, and black leather shoes. To purchase the polo shirt, contact Midwest Trophy Manufacturing Co. Inc. by calling 800-324-5996 or order online at www.mtmrecognition.com/skillsusa/.

Note: Contestants must wear their official contest clothing to the contest orientation meeting.

ELIGIBILITY

Open to active SkillsUSA members enrolled in programs with computer literacy as part or all of the occupational objective.

EQUIPMENT

1. Supplied by technical committee:
    a. Any PC software needed to complete the contest
    b. Network storage and networking equipment to connect to an Ethernet network

2. Supplied by the contestant:
    a. Computer and monitor with the following minimum specifications
        1. 1.6Ghz processor with 512MB of RAM
        2. 15-inch VGA monitor
        3. Wheel mouse
        4. NIC card for a wired Ethernet connection
        5. CD-ROM
        6. Power outlet with six outlets

        7. Clean install of Windows XP Professional with the latest service packs installed
        8. All user passwords or BIOS passwords should be disabled or uninstalled
    b. Software pre-installed on system
        1. XP Professional, full install with no add-on software installed. Current service packs should be installed
        2. Internet Explorer 6.0 or higher with service packs installed
    c. One-page, typewritten résumé

3. Any changes to the hardware or software requirements will be announced annually in the SkillsUSA Championships update at skillsusa.org/compete/updates.shtml.

4. No cell phones or PDAs will be allowed during the contest

SCOPE OF THE CONTEST

This contest is defined by industry standards as set by the current industry technical standards. The contest assesses the ability of a candidate to perform jobs and skills selected from the list of competencies as determined by the SkillsUSA Championships technical committee.

Knowledge Performance

A written exam will be given that covers the installation and operation of the software, hardware and cabling plus general computer support knowledge. Topics also include information as related to the Internet, networking and data sharing.

Skill Performance

A series of demonstrations will be performed during the skills performance portion of this contest. The competencies outlined by the contest technical committee will be used as the foundation for this assessment. Contestants should be familiar with using a Windows-based, open source and/or Macintosh operating system. All work must be done independently. No cell phones or PDA's will be allowed during the contest.

Standards and Competencies

TECH 1.0 — Administer topics relating to the Internet standards and guidelines as set forth by the technical committee

1.1 Describe e-mail functions
1.2 Define FTP
1.3 Explain networking processes
1.4 Display knowledge of server installation
1.5 Describe wireless and Bluetooth technology

TECH 2.0 — Install and configure an operating system per standards and guidelines as set forth by the technical committee

2.1 Install an operating system
2.2 Configure an operating system
2.3 Create users and policies for users
2.4 Manipulate application software as needed

TECH 3.0 — Demonstrate the use of Microsoft Office Professional per standards and guidelines as set forth by the technical committee

3.1 Use features in Outlook
  3.1.1 Originate and respond to e-mail and instant messages
  3.1.2 Attach files to items
  3.1.3 Create and modify a personal signature for messages
  3.1.4 Modify e-mail message settings and delivery options
  3.1.5 Create and edit contacts
  3.1.6 Accept, decline and delegate tasks
  3.1.7 Create and modify appointments, meetings and events
  3.1.8 Update, cancel and respond to meeting requests
  3.1.9 Customize calendar settings
  3.1.10 Create, modify and assign tasks
  3.1.11 Create and modify distribution lists
  3.1.12 Link contacts to other items
  3.1.13 Create and modify notes
  3.1.14 Organize items using folders
  3.1.15 Search for items
  3.1.16 Save items in different file formats
  3.1.17 Assign items to categories
  3.1.18 Preview and print items

3.2 Use features in Word
  3.2.1 Format text and paragraphs
  3.2.2 Apply and format columns
  3.2.3 Insert and modify content in header and footers
  3.2.4 Modify document layout and page setup
  3.2.5 Create new documents using a template
  3.2.6 Review and modify document properties
  3.2.7 Organize documents using file folders
  3.2.8 Save documents in appropriate formats for different users
  3.2.9 Print documents, envelopes and labels
  3.2.10 Preview documents and Web pages
  3.2.11 Insert and edit text, symbols and special characters
  3.2.12 Insert frequently used and pre-defined text
  3.2.13 Navigate to specific content
  3.2.14 Insert, position and size graphics
  3.2.15 Create and modify diagrams and charts
  3.2.16 Locate, select and insert supporting information
  3.2.17 Change and organize document views and windows
  3.2.18 Insert and modify tales
  3.2.19 Create bulleted lists, numbered lists and outlines
  3.2.20 Insert and modify hyperlinks
  3.2.21 Circulate documents for review
  3.2.22 Compare and merge documents
  3.2.23 Insert, view and edit comments
  3.2.24 Track, accept and reject proposed changes

3.3 Use features of Excel
  3.3.1 Enter and edit cell content
  3.3.2 Locate specific cell content
  3.3.3 Locate, select and insert supporting information
  3.3.4 Insert, position and size graphics
  3.3.5 Filter lists using the AutoFilter feature
  3.3.6 Sort lists
  3.3.7 Insert and modify formulas
  3.3.8 Use statistical, date and time, financial and logical functions
  3.3.9 Create, modify and position diagrams and charts based on worksheet data
  3.3.10 Apply and modify cell formats
  3.3.11 Apply and modify cell styles
  3.3.12 Modify row and column formats
  3.3.13 Format worksheets
  3.3.14 Insert, view and edit comments
  3.3.15 Create new workbooks from templates
  3.3.16 Insert, delete and move cells
  3.3.17 Create and modify hyperlinks
  3.3.18 Organize worksheets
  3.3.19 Preview data in other views
  3.3.20 Customize window layout

3.3.21 Setup pages for printing
3.3.22 Print data
3.3.23 Organize workbooks using file folders
3.3.24 Save data in appropriate formats for different uses
3.4 Use features in PowerPoint
3.4.1 Create new presentations from templates
3.4.2 Insert and edit text-based content
3.4.3 Insert tables, charts and diagrams
3.4.4 Insert pictures, shapes and graphics
3.4.5 Insert objects
3.4.6 Format text-based content
3.4.7 Format pictures, shapes and graphics
3.4.8 Format slides
3.4.9 Apply animation schemes
3.4.10 Apply slide transitions
3.4.11 Customize slide templates
3.4.12 Work with masters
3.4.13 Track, accept and reject changes in a presentation
3.4.14 Add, edit and delete comments in a presentation
3.4.15 Compare and merge presentations
3.4.16 Organize a presentation
3.4.17 Set up slide shows for delivery
3.4.18 Rehearse timing
3.4.19 Deliver presentations
3.4.20 Prepare presentations for remote delivery
3.4.21 Save and publish presentations
3.4.22 Print slides, outlines, handouts and speaker notes
3.4.23 Export a presentation to another Microsoft Office program
3.5 Use features in Money
3.6 Use features in Front Page
3.7 Use features in Publisher
3.8 Use features in Internet Explorer

TECH 4.0 — Complete a hands-on demonstration of the Internet per standards and guidelines as set forth by the technical committee
4.1 Show proper use of e-mail
4.2 Exhibit knowledge of FTP
4.3 Employ knowledge of networking
4.4 Use XML
4.5 Share data across the Internet

TECH 5.0 — Install, configure and test any Windows compatible software and/or add-on hardware per standards and guidelines as set forth by the technical committee
5.1 Install Windows compatible software and/or add-on hardware

5.2 Configure Windows compatible software and/or add-on hardware
5.3 Test Windows compatible software and/or add-on hardware

TECH 6.0 — Assist in unpacking, setup and repacking of network and computer equipment per standards and guidelines as set forth by the technical committee
6.1 Demonstrate appropriate handling of hardware and software while unpacking and packing

Committee Identified Academic Skills
The technical committee has identified that the following academic skills are embedded in this contest.

Math Skills
- Use fractions to solve practical problems
- Use proportions and ratios to solve practical problems
- Solve practical problems involving percents
- Solve single variable algebraic expressions
- Solve multiple variable algebraic expressions
- Apply transformations (rotate or turn, reflect or flip, translate or slide and dilate or scale) to geometric figures
- Make predictions using knowledge of probability
- Make comparisons, predictions and inferences using graphs and charts
- Organize and describe data using matrixes
- Solve problems using proportions, formulas and functions
- Use laws of exponents to perform operations

Science Skills
None Identified

Language Arts Skills
- Provide information in conversations and in group discussions
- Provide information in oral presentations
- Demonstrate use of verbal communication skills, such as word choice, pitch, feeling, tone and voice
- Demonstrate use of nonverbal communication skills, such as eye contact, posture and gestures using interviewing techniques to gain information
- Demonstrate comprehension of a variety of informational texts
- Use text structures to aid comprehension
- Organize and synthesize information for use in written and oral presentations
- Demonstrate knowledge of appropriate reference materials

- Use print, electronic databases and online resources to access information in books and articles

Connections to National Standards

State-level academic curriculum specialists identified the following connections to national academic standards.

Math Standards
- Algebra
- Data Analysis and Probability
- Problem Solving
- Communication
- Connections
- Representation

Source: NCTM Principles and Standards for School Mathematics. To view high school standards, visit: standards.nctm.org/document/chapter7/index.htm Select "Standards" from menu.

Science Standards
- Understands the sources and properties of energy
- Understands the nature of scientific inquiry
- Understands the scientific enterprise

Source: McREL compendium of national science standards. To view and search the compendium, visit: www.mcrel.org/standards-benchmarks/

Language Arts Standards
- Students apply a wide range of strategies to comprehend, interpret, evaluate and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics)
- Students adjust their use of spoken, written and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes
- Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes
- Students apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language and genre to create, critique and discuss print and non-print texts

- Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.
- Students use spoken, written and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information)

Source: IRA/NCTE Standards for the English Language Arts. To view the standards, visit: www.readwritethink.org/standards/index.html.

CONTEST SCORECARD

Items Evaluated	Possible Points
Written Test	100
Oral Presentation	100
Equipment Setup/Installing Hardware/Software	50
Microsoft Office Capabilities	500
Internet Capabilities	100
Windows Operating System	70
Collaborative Solutions	80

Sub Total	**1,000**
Résumé Penalty	_____
Clothing Penalty	_____
TOTAL	_____